Work Order ID 119223

119223

May-14-14 10:18:03 AM

Item ID: D4634-1 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Fwd, Center Ceiling Panel

Start Date: 5/14/14 **Start Qty:** 1.00 *1*

Required Date: 5/14/14 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** MLS **Date:** 14-05-14 **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr D4634	**Revision Nbr** F								
100	HAND FINISHING THERMOFORMING	0.00							DAS 07 9-89
100						X1			14/05/15
Thermoform	**Memo**	0.00							
Thermoforming Machine	Cut Blanks								
105	Dry Material	0.00							DAS 07 9-89
105						X1			14/05/15
HandThermo	**Memo**	0.00							
Hand Finishing Thermoforming	Dry Sheet as per QSI022 POLYCARBONATE								

Temp: 245 deg. F

Time IN: 5:00 PM ~~6:00 AM~~ MAY 15 2014

Time OUT: _____ Per.....

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric
- ☐ Cracks
- ☐ Crimp/Kink/Ripple/Wave
- ☐ Cuffs
- ☐ Crushing
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Marks/Chatter
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damage/Defect
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drawing
- ☐ Drill Holes
- ☐ Finish
- ☐ Fit/Function
- ☐ Folio/Program
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete/Unqualified
- ☐ Instructions Incomplete/Unclear
- ☐ Misaligned/off center
- ☐ Mislabeled
- ☐ Misread
- ☐ Off-set
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Set-up
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Work Order ID 119223

119223

May-14-14 10:18:03 AM

Item ID: D4634-1 **Accept** *N9000040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Fwd, Center Ceiling Panel

Start Date: 5/14/14 **Start Qty:** 1.00 *1* **Cust Item ID:**

Required Date: 5/14/14 **Req'd Qty:** 1.00 *1* **Customer:**

Reference: **Run Start** *NR1*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Stop** *NR2*

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110		0.00							DAS 07 9-89
110	THERMOFORMING MACHINE					X/			
Thermoform	**Memo**	0.00							14/05/15
Thermoforming Machine	Thermoform as per Dwg. D4634-1 and Folio FTA144								
	Dwg. Rev. F								
	Folio Rev. E								
	Visually inspect for proper formation and texture								
130		0.00							
130	HAND FINISHING THERMOFORMING					X/			B 14/06/05
Thermoform	**Memo**	0.00							
Thermoforming Machine	Trim to Finished Dimensions								
140	~~QC6-~~ Inspect dimensions to drawing	0.00							DAS 16 9-89
140 QC5	Dimensional Inspection								
QC	**Memo**	0.00							14/06/09
Quality Control	Fill in Inspection Sheet Rev A								

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

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- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

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- ☐ Folio/Program
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete/Unqualified
- ☐ Instructions Incomplete/Unclear
- ☐ Misaligned/off center
- ☐ Mislabeled
- ☐ Misread
- ☐ Off-set
- ☐ Out of Calibration
- ☐ Out of Sequence
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- ☐ Over/Under tolerance
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Work Order ID 119223

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May-14-14 10:18:03 AM

Item ID: D4634-1 **Accept** *N9000040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Fwd, Center Ceiling Panel

Start Date: 5/14/14 **Start Qty:** 1.00 *1*

Required Date: 5/14/14 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 *150* QC Quality Control	QC5- Inspect part completeness to step on W/O NAS Memo	0.00 0.00							
160 *160* Packaging Packaging	Packaging Memo Section MF	0.00 0.00				0	SMD	14/06/09	
170 *170* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00					MCJ	14-06-10	MF 14-6-10

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

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- ☐ Engineering
- ☐ Quality
- ☐ Other
- ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

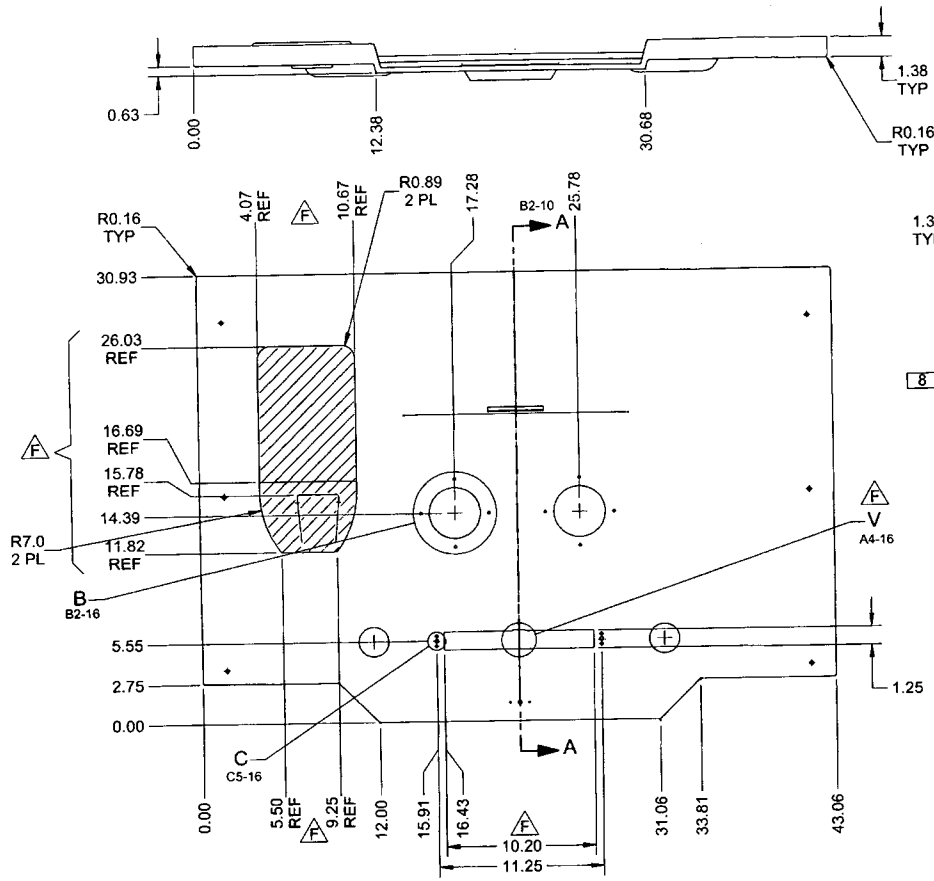
FAULT CATEGORY

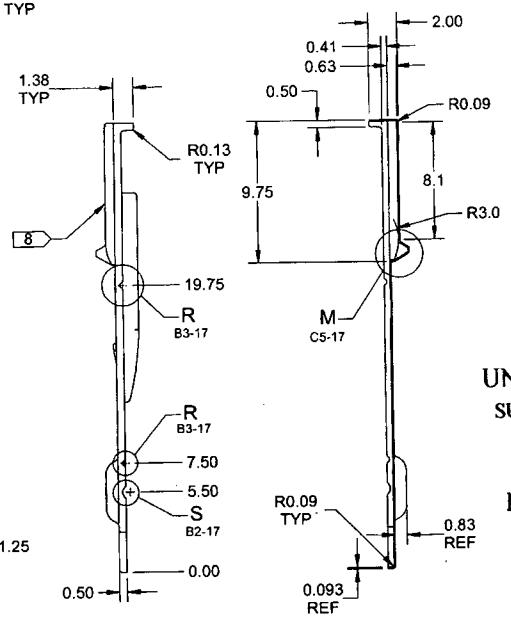
Landing Gear

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- ☐ Cuffs
- ☐ Crushing
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- ☐ Marks/Chatter
- ☐ Turning Sequence
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- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Set-up
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other _____





SECTION A-A C6-10

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 119223 MCS
14-05-14

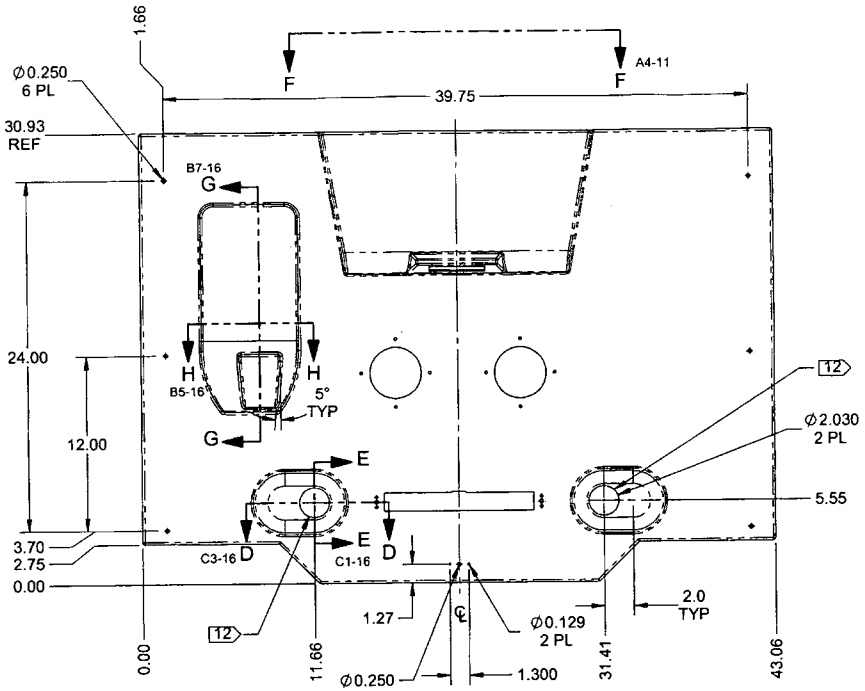
RELEASED
2014 FEB 25

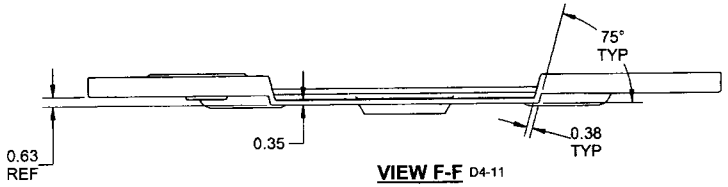
NOTES:
1) MATERIAL: F6006 SUEDE/POLISHED GY5B133 LIGHT GREY LEXAN SHEET 0.093 THICK
(REF DART SPEC MLEXS.093-F6006-07)
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 5.65 lbs
8) TEXTURE ON THIS SIDE
9) 0.14 RADIUS NOT SHOWN FOR CLARITY
10) DRILL & TRIM D4634-1 PER TOOL DT9836
11) THERMOFORM PER QSI 022 USING DT9844 TOOL
MIN. THICKNESS AFTER FORMING:
SHADED AREA = 0.020
EDGES = 0.060
ELSEWHERE = 0.070
12) LOCATE Ø2.030 AT CENTER OF PROTRUDED SURFACE AS SHOWN

D4634-1 FWD, CENTER CEILING PANEL

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	DC	DRAWING NO. D4634 REV. F
MFG. APPR.		SHEET 10 OF 17
APPROVED		TITLE CENTER CEILING PANELS SCALE NTS
DE APPR.		
DATE	14.02.03	

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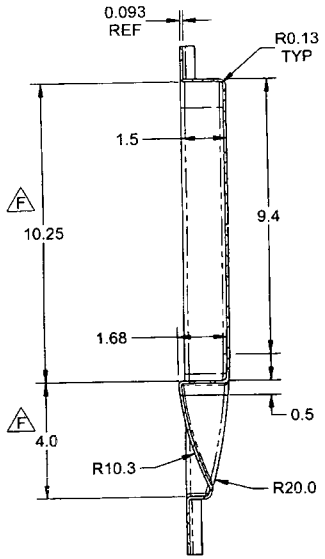
VIEW F-F D4-11

RELEASED
2014 FEB 25

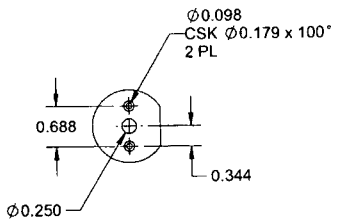
D4634-1 FWD, CENTER CEILING PANEL
AUXILIARY VIEW

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D4634 — REV. F — SHEET 11 OF 17
CHECKED		TITLE: CENTER CEILING PANELS — SCALE: NTS
MFG. APPR.		
APPROVED		
DE APPR.		
DATE	14.02.03	

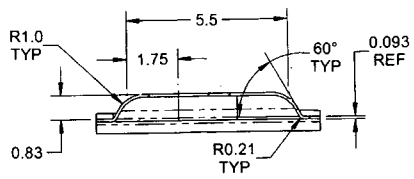
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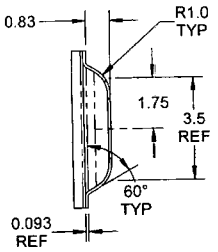
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SCALE 4X



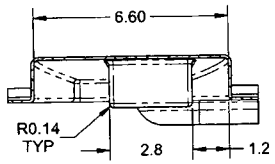
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SCALE 4X



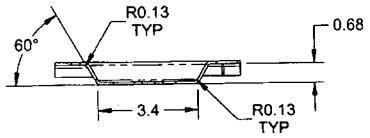
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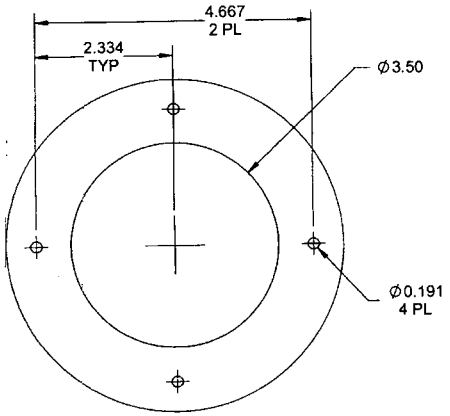
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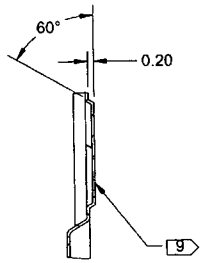
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SCALE 2X



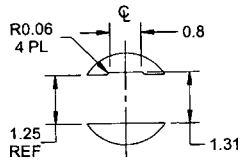
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DETAIL B B7-10
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2 PL



DETAIL L B2-13 C2-13 B2-14 C2-14
SCALE 4X
TYP

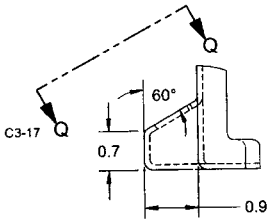


F **DETAIL V** C4-10 B4-12 C4-14
SCALE 2X
SIMILAR

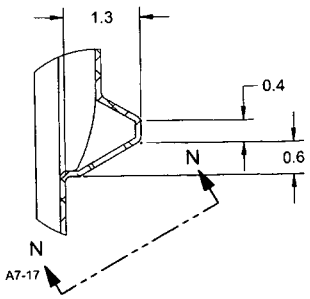
RELEASED
2014 FEB 25

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. REV. F
CHECKED		D4634 SHEET 16 OF 17
MFG. APPR.		TITLE SCALE
APPROVED		CENTER CEILING PANELS NTS
DE APPR.		
DATE	14.02.03	

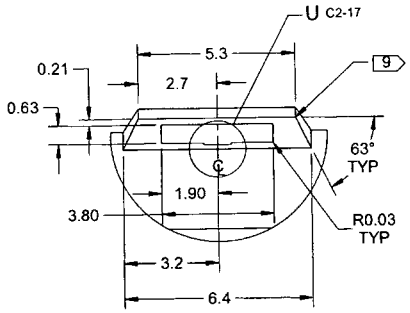
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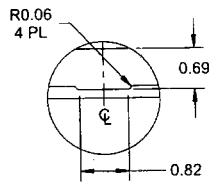
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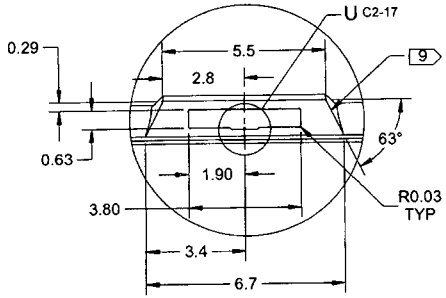
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SCALE 2X



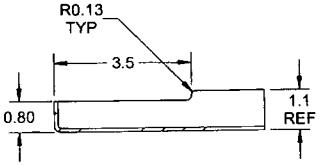
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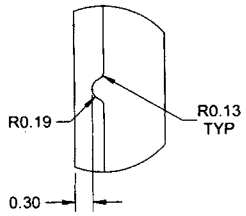
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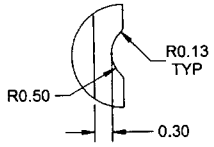
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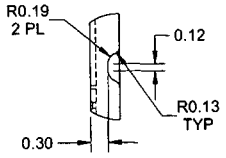
SECTION O-O B6-14
SCALE 1.3X



DETAIL R B3-10 C3-10 B2-12
SCALE 4X



DETAIL S B3-10 C2-12
SCALE 4X



DETAIL T C2-14
SCALE 4X

RELEASED
2014 FEB 25

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. REV. F
CHECKED	DC	D4634 SHEET 17 OF 17
MFG. APPR.		TITLE SCALE
APPROVED		CENTER CEILING PANELS NTS
DE APPR.		
DATE	14.02.03	

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DART AEROSPACE LTD

Description: Fwd Center Ceiling Panel		Work Order: 119223
Inspection Drawing: 4634-1	Rev: F	Part Number: D4634-1

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
12.00	+/-0.030	12.00	✓		tape	SEAB-21
24.00	+/-0.030	24.00	✓		↓	↓
39.75	+/-0.030	39.75	✓		↓	↓
11.66	+/-0.030	11.66	✓		↓	↓
31.41	+/-0.030	31.41	✓		↓	↓
1.300	+/-0.010	1.300	✓		Vern	~~Vern~~ SEAB-08
Ø0.250	+0.005 -0.001	Ø0.250	✓		↓	↓
Ø2.030	+0.002 -0.001	Ø2.030	✓		↓	↓
4.667	+/-0.010	4.667	✓		↓	↓
2.334	+/-0.010	2.334	✓		↓	↓
Ø3.50	+/-0.010	Ø3.50	✓		↓	↓
Ø0.191	+/-0.005 -0.001	Ø0.191	✓		↓	↓
3.80	+/-0.030	3.80	✓		↓	↓
0.63	+/-0.030	0.63	✓		↓	↓
1.25	+/-0.030	1.25	✓		↓	↓
10.20	+/-0.030	10.20	✓		tape	SEAB-21
11.25	+/-0.030	11.25	✓		"	"

Measured by:	Checked By:	QC inspector:	Engineering Approval (*if necessary*):
SAD	DAS 16 9-89	DAS 16 9-89	
Date 14/06/09	Date 14/06/09	Date 14/06/09	Date